



# PANDEMIC INFLUENZA

Presentation to the House HESS Committee  
January 26, 2006

Richard Mandsager, MD, FAAP  
Director, Division of Public Health

Jay Butler, MD, FAAP, FACP  
Alaska State Epidemiologist  
Chief, Section of Epidemiology  
Division of Public Health

# Overview


## ► Influenza Primer

- What is influenza?
- What is avian influenza ("bird flu")?
- What is a pandemic?
- Why should we care?
- What are the misperceptions?

## ► Influenza Pandemic Preparations

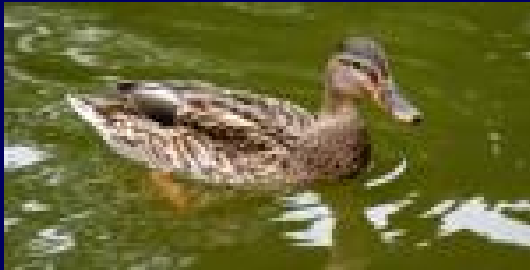
- What can we do to protect ourselves?
- What can we do to protect our businesses?
- What is the role of public health?

# Influenza: What Is It?

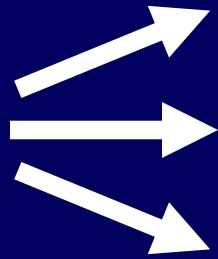
- ▶ Respiratory tract infection caused influenza virus
  - ▶ Transmission by respiratory droplet
  - ▶ Illness begins 1-5 days after exposure
  - ▶ Infectious from day before or day of illness onset, lasts 3-5 days
- 
- ▶ Influenza A – frequent winter epidemics, causes pandemics
  - ▶ Influenza B - occasional winter epidemics
  - ▶ Influenza C - episodic infection

# Influenza A

- ▶ 16 H types, 9 N types
- ▶ Aquatic bird reservoir
- ▶ Occasionally, strains will "jump species"



All H and N types





# Human Influenza



- ▶ Influenza A subtypes that spread widely among humans
- ▶ H1N1, H3N2, and H1N2 currently circulating

# Avian Influenza

- ▶ Influenza A viruses found mainly in birds
- ▶ Two types:
  - Low pathogenic: disease may be mild or absent
  - Highly pathogenic: mortality can approach 100% in birds





# H5N1 Avian Influenza

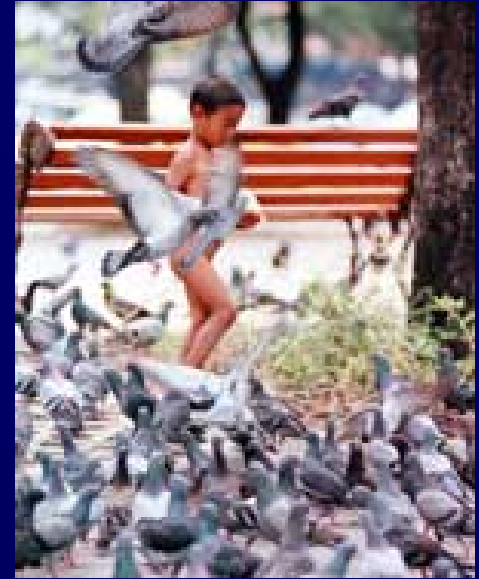
- ▶ First isolated from terns in South Africa in 1961 (low path)
- ▶ Circulates globally in wild birds
- ▶ Highly pathogenic strain emerged among domestic poultry in Hong Kong in 1997
  - Severe disease identified among humans - "bird flu"
- ▶ Re-emerged in southeast Asia in December 2003





# Transmission of H5N1 Avian Influenza

- ▶ Direct contact with infected domestic poultry or their secretions
- ▶ Human-to-Human:  
Rare to date
  - Rare healthcare worker transmission
  - Family cluster in Thailand, Sept. 2004



# Spread of H5N1, 2005



# Why Should We Care?

## Recipe for an Influenza Pandemic



▶ A new influenza virus to which the population has little immunity

✓ H5N1

▶ Ability of the virus to replicate in humans and cause disease

✓ 151 cases resulting in 82 deaths in Eurasia (between Dec 2003 and Jan 23, 2006)

▶ Efficient and sustained person-to-person transmission



Not yet...

# Potential Clinical Impact of Pandemic Influenza in Alaska

Outcome	Approximate Number
Illness	200,000
Clinic visits	100,000
Hospitalizations	2,000-22,000
ICU admissions	300-3,000
Mechanical ventilation	150-1,500
Deaths	400-4,000

# Business Impact

- ▶ High rates of absenteeism due to employee illness, ill family members, limits on public transportation, school closures, fear, etc.
- ▶ Possible restrictions on transportation and public gatherings:
  - Reduced ability to provide goods and services
  - Change in customer demand

# Common Misperceptions About Pandemic Influenza

- ▶ An influenza pandemic is overdue and it will be caused by H5N1 “bird flu”.



- ▶ “Gambler’s fallacy”. There is no biological clock ticking.
- ▶ We do not know which type of influenza will cause the next pandemic.
- ▶ But we do have better technology to recognize trends in viral evolution and infection in animals and humans than in the past.

# Common Misperceptions About Pandemic Influenza

- ▶ Like a forest fire, an influenza pandemic can be snuffed-out if caught early.
- ▶ Given the short incubation period, viral shedding very early after infection, and ease of spread, this is highly unlikely.



Alaska State Library - Historical Collections



# Common Misperceptions About Pandemic Influenza

- ▶ There is nothing that we can do and the Federal government is going to take care of this anyway.
- ▶ Preparedness is critical for mitigation but
  - Vaccines will probably not be available at the beginning of the next pandemic.
  - Antiviral drugs will likely be in short supply.
- ▶ There are things that we can all do...

# What Can We Do to Protect Ourselves and Prevent Spread of Influenza?

Practice these 9 habits of healthy people:

- ▶ Wash your hands or use hand sanitizer
- ▶ Cover your mouth when you cough or sneeze
- ▶ Avoid touching your eyes, nose, and mouth
- ▶ Stay home if you are ill
- ▶ Get enough rest and exercise
- ▶ Eat a balanced diet
- ▶ Use alcohol in moderation, if at all
- ▶ Avoid tobacco smoke
- ▶ Get an annual influenza vaccination

# Public Health's Role

- ▶ Surveillance for Human Disease
- ▶ Disease Control Policies and Strategies
- ▶ Plan --- Train --- Exercise
- ▶ Encourage and Support Partners:
  - Medical System
  - Community Leaders
  - Business Leaders
  - Schools



# We're Better Prepared Than Ever Before...

- ▶ New Public Health Law in Effect
- ▶ Emergency Plans for:
  - Incident Command Operations
  - Epi Investigations
  - Mass Prophylaxis
  - Pandemic Flu
  - Training of Public Health Staff
- ▶ Mass Prophylaxis Clinic Exercises
- ▶ Human Disease Surveillance
- ▶ Bird Disease Surveillance



# But Much Work Remains...

- ▶ Engaging Faith Organizations, Communities, Businesses, & Schools
- ▶ Alternate Care Site Exercises
- ▶ Developing Antiviral Strategies
- ▶ Identification of Essential Services and Workers
- ▶ Isolation and Social Distancing Strategies

# State of Alaska

## Pandemic Influenza Preparedness

### Concept Plan

#### ► Planning Assumptions

- State Emergency Response Plan = Foundation for Preparedness and Response
- Shortage of antivirals
- No vaccine for at least 6 months after start of pandemic
- Global problem
- Widespread illness = personnel shortages
- Duration of 6 – 12 months
- Health care facilities overwhelmed
- Reduced national-level resource support

# State of Alaska Pandemic Influenza Preparedness Concept Plan

## ► Objectives

1. Alaska Pandemic Influenza Annex
  - Annex to Division of Public Health's Emergency Operations Plan
  - Based on National Pandemic Influenza Plan
  - 2<sup>nd</sup> Edition completed this week
2. Public Information and Education
3. Outreach
4. Training and Exercise



# Guidance to Business Leaders

## Pre-Pandemic:

- ▶ Develop a plan with input from labor
  - Identify “essential workers”
  - Determine potential impact on demand for products and services
  - Establish emergency communications plan
  - Plan how to reduce contact among employees and between employees and customers
  - Identify and address employees and customers with special needs
- ▶ Encourage annual influenza vaccination
- ▶ Evaluate employee access to healthcare and mental health services

# Guidance to Business Leaders

## During Pandemic:

- ▶ Establish sick leave policies to prevent ill employees from reporting to work
- ▶ Use flexible workplace and work hours
- ▶ Restrict business travel to affected areas
- ▶ Encourage hand hygiene and respiratory etiquette
- ▶ Provide infection control supplies

# Guidance to Business Leaders

## Before, During, and After:

- ▶ Maintain good communications with employees
- ▶ Share best practices and “lessons learned” with other businesses
- ▶ STAY INFORMED

# Legislative Support for Preparedness

## Accomplished in 2005 Session:

- ▶ Updated state public health laws (HB 95)
- ▶ Authorized funding for new Virology Laboratory (SB 73)

## Next Steps:

- ▶ Community leadership
  - Ask local leaders about status of emergency plans
  - Participate in community emergency planning meetings
- ▶ Governor's funding initiative for public health preparedness
- ▶ Possible future legislation to improve preparedness

# **\$7.23 Million FY2007 Budget Initiative**

## **Alaskans Safe & Secure from Infectious Disease Threats and Public Health Emergencies**

- ▶ **\$1.0 M:** Epi disease surveillance, investigation, and control
- ▶ **\$1.0 M:** Public health laboratory disease surveillance
- ▶ **\$1.5 M:** Public health nursing support for community-based:
  - Emergency planning and exercises
  - Monitoring of health status
  - Disease investigation and control
- ▶ **\$2.5 M:** Immunization & Disease Surveillance Registries
  - \$2.05 M: One-time capital project development
  - \$0.45 M: On-going maintenance expense
- ▶ **\$1.23 M:** Alaska-based antiviral stockpiles

# In Summary

- ▶ It is likely that a pandemic of influenza will happen in the future.
- ▶ We are better prepared than ever, but have *much* more work to do.
- ▶ The work we do to improve preparedness for pandemic influenza makes us better prepared for other threats and emergencies.
- ▶ You play a significant leadership role for Alaska's citizens; we hope you will partner with us.

# Additional Information

- ▶ [www.pandemicflu.gov](http://www.pandemicflu.gov)
- ▶ [www.pandemicflu.alaska.gov](http://www.pandemicflu.alaska.gov)
- ▶ [The Great Influenza](#), John M. Barry, Penguin Books, 2004